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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,000	07/18/2003	Wenzhen Li	P/2778-42	3043
2352	7590	11/14/2006	EXAMINER	
OSTROLENK FABER GERB & SOFFEN 1180 AVENUE OF THE AMERICAS NEW YORK, NY 100368403			TRAN, KHANH C	
			ART UNIT	PAPER NUMBER
			2611	

DATE MAILED: 11/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/623,000

Applicant(s)

LI, WENZHEN

Examiner

Khanh Tran

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-8 is/are allowed.
- 6) ☒ Claim(s) 10 is/are rejected.
- 7) ☒ Claim(s) 9 and 11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 9 is objected to because of the following informalities: in lines 11-13, "between said MLSE output and a training sequence memory, and between said MLSE delayed input and a non-delayed MLSE input should be changed to -- between a non-delayed MLSE input and a training sequence memory, and between said MLSE output and said MLSE delayed input --. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 10 is rejected under 35 U.S.C. 102(b) as being anticipated by Maruyama U.S. Patent 6,144,708.

Regarding claim 10, referring to FIG. 1, in column 4 lines 5-67, Maruyama teaches a radio data communication terminal including a phase-locked loop circuit, which uses an equalizer. The PLL includes a phase difference detector 17 coupled to a signal delay section 16 for delaying one of the input to the phase difference detector 17 by a delay time corresponding to the processing delay of the equalizer 14. It's known in

the art that equalizer 14 is equivalent to the claimed MLSE. The other input of the phase difference detector 17 is coupled to the output of equalizer 14 through replica signal generator 15. In light of the foregoing, phase difference detector 17 corresponds to the claimed processing means and the combination of phase difference detector 17 and signal delay section 16 constitutes the claimed detector.

In column 3 lines 5-30, Maruyama further teaches a phase locking method by which an influence due to a phase error is corrected on a radio data communication terminal which equalizes received signals by obtaining a transmission line characteristic during a preamble duration in a narrow band modulation mode, comprising the steps of reproducing a real part amplitude value and an imaginary part amplitude value based on tap coefficients set to an equalizer and data demodulated by the equalizer, the real part amplitude value and the imaginary part amplitude value each being a received signal before demodulation, providing timing to a reproduced received signal obtained by delaying and reproducing the receive signal.

### ***Allowable Subject Matter***

3. Claims 1-8 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 1, claim is allowable over prior art of record because the cited references (Maruyama U.S. Patent 6,144,708) taken individually or in combination

cannot teach or suggest the uniquely distinct features "wherein the phase determining means is further arranged to determine the phase difference between a non-delayed signal at the MLSE input and a stored preamble sequence signal".

4. Claim 9 is allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 9, claim is allowable over prior art of record because the cited references (Maruyama U.S. Patent 6,144,708) taken individually or in combination cannot teach or suggest the uniquely distinct features "wherein the phase detector is arranged to be switch-able between said MLSE output and a training sequence memory, and between said MLSE delayed input and a non-delayed MLSE input".

5. Claim 11 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Matui U.S. Patent 6,587,521 B1 discloses "Signal Estimation And Program Stored Memory Medium".

Takla U.S. Patent 6,295,327 B1 discloses "Method And Apparatus For Fast Clock Recovery Phase-Locked Loop With Training Capability".

Matui U.S. Patent 6,473,470 B1 discloses "Phase-Locked Loop Circuits For Communication System".

Maruyama U.S. Patent 6,614,840 B1 discloses "Equalizer With Phase-Locked Loop".

Maruyama U.S. Patent 6,522,702 B1 discloses "Radio Data Communication Terminal".

Aftelak U.S. Patent 6,658,075 B1 discloses "Synchronization Lock Detector And Method".

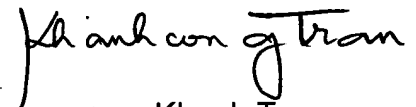
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh Tran whose telephone number is 571-272-3007. The examiner can normally be reached on Monday - Friday from 08:00 AM - 05:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KCT

A handwritten signature in black ink, appearing to read 'Khanh Tran', with a stylized flourish at the end.

Khanh Tran  
Primary Examiner